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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,693	09/28/2001	Kenji Watanabe	Q66444	2941

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EXAMINER

KRUER, KEVIN R

ART UNIT PAPER NUMBER

1773

DATE MAILED: 05/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/964,693

Applicant(s)

WATANABE ET AL.

Examiner

Kevin R Kruer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 6(1), 6(2), 7(1), 7(2), 8(1), 8(2), 9(1), 9(2), 13(1), 13(2), 14(1), 14(2), and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP10267360A (herein referred to as Watanabe '360) in view of Yoshizumi (US 4,431,764).

Watanabe'360 teaches a flame retardant molded object formed from a composition comprising 100pbw vinyl chloride resin having a chlorination degree of 58-73% and 4-30pbw titanium dioxide. On at least one side of the molded object, a surface layer may be applied. The surface layer (herein relied upon to read on the claimed intermediate layer) comprises 0-20 titanium dioxide (abstract), a chlorination degree of 50-57% (paragraph 0017 of translation), and a thickness of 200um or more (paragraph 0046). The composition can be used in equipment in which semiconductor parts are made (paragraph 003).

Watanabe'360 does not teach that the molded object may be coated on one side with an antistatic composition. However, Yoshizumi teaches an antistatic coating composition comprising tin oxide (abstract) which is coated onto nonconductive coatings that need antistatic properties (col 1, lines 11+). The tin oxide is dispersed in a

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binder resin such as vinyl chloride or a thermosetting resin (col 2, lines 41+). Thus, it would have been obvious to one of ordinary skill in the art to apply the coating taught in Yoshizumi onto the substrate taught in Watanabe'360 in order to provide the substrate with antistatic properties.

With respect to claim 13, Yoshizumi does not teach the claimed chlorination content of the vinyl chloride binder. However, Watanabe'360 teaches that the chlorination degree of a polymer will affect its fire resistance, thermal stability, and moldability (paragraph 0015). Therefore, it would have been obvious to one of ordinary skill in the art to control the chlorination degree of the vinyl chloride binder in order to control the laminate's moldability, thermal stability, and fire resistance.

With respect to claims 8(1) and 8(2), the examiner takes the position that the combination of Watanabe'360 and Holley reads on the claimed invention wherein both surfaces of the molded object has a surface layer. The molded object reads on the intermediate layer, and the skin layer removed from the antistatic coating reads on the base layer.

With respect to claim 9, the thickness range taught in Watanabe'360 and the claimed thickness range overlap. Thus, Watanabe'360 teaches the claimed range for all points that overlap.

2. Claims 1, 2, 6(1), 6(2), 7(1), 7(2), 8(1), 8(2), 9(1), 9(2), and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP10267360A (herein referred to as Watanabe '360) in view of Holley (US 5,508,343). Watanabe'360 teaches a flame retardant molded object formed from a composition comprising 100pbw vinyl chloride

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resin having a chlorination degree of 58-73% and 4-30pbw titanium dioxide. On at least one side of the molded object, a surface layer may be applied. The surface layer (herein relied upon to read on the claimed intermediate layer) comprises 0-20 titanium dioxide (abstract), a chlorination degree of 50-57% (paragraph 0017 of translation), and a thickness of 200um or more (paragraph 0046). The composition can be used in equipment in which semiconductor parts are made (paragraph 003).

Watanabe'360 does not teach that the molded object may be coated on one side with an antistatic composition. However, Holley teaches an antistatic composition comprising a water-soluble polymer, a titanate, and an ammonium salt (abstract). The composition is coated on substrates (col 2, lines 47+) such as object utilized in the production of semiconductor electronics (col 1, lines 14+) in order to prevent damage that can be caused by static build-up (col 1, lines 27+). NOTE: the molded objects of Watanabe can be utilized in equipment to make semiconductors. Thus, it would have been obvious to one of ordinary skill in the art to coat the molded object taught in Watanabe '360 with the anti-static composition taught in Holley in order to prevent damage to semiconductor electronics that could come in contact with said object.

With respect to claims 8(1) and 8(2), the examiner takes the position that the combination of Watanabe'360 and Holley reads on the claimed invention wherein both surfaces of the molded object has a surface layer. The molded object reads on the intermediate layer, and the skin layer removed from the antistatic coating reads on the base layer.

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With respect to claim 9, the thickness range taught in Watanabe'360 and the claimed thickness range overlap. Thus, Watanabe'360 teaches the claimed range for all points that overlap.

3. Claims 10(1) and 10(2) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP10267360A (herein referred to as Watanabe '360) in view of Holley (US 5,508,343), as applied to claims 1, 2, 6(1), 6(2), 7(1), 7(2), 8(1), 8(2), 9(1), 9(2), and 15 above, and further in view of JP11067945A (herein referred to as Watanabe'945). Watanabe'360 in view of is relied upon as above, but neither reference teaches that the surface layer may comprise a vinyl chloride resin having a chlorination degree of less than 58% and a phosphorus fire-retarding agent. However, Watanabe'945 teaches a molded vinyl chloride based object wherein the surface layers comprise 0-20pbw titanium oxide, 0-8pbw phosphorus compound, (abstract) and 100pbw vinyl chloride based resin having a chlorination degree of 50-58% (paragraph 0025 of translation). Said surface layer provides the core with improved chemical and corrosion resistance (paragraph 0039). Similarly, the surface layer taught in Watanabe'360 provides chemical resistance (paragraph 0018). Therefore, it would have been obvious to replace the surface layer taught in Watanabe'360 with the surface layer taught in Watanabe '945 because said surface layers are functionally equivalent in that each provides the laminate with improve chemical and corrosion resistance.

4. Claims 10(1) and 10(2) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP10267360A (herein referred to as Watanabe '360) in view of Holley (US 5,508,343), as applied to claims1, 2, 6(1), 6(2), 7(1), 7(2), 8(1), 8(2), 9(1),

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9(2), and 15 above, and further in view of Coaker et al (US 5,036,121). Watanabe'360 in view of Holley is relied upon as above, but does not teach that the surface layer may comprise chlorinated polyethylene. However, Coaker discloses that it is known in the art to add chlorinated polyethylene to a PVC composition in order to improve the composition's flexibility, processability, and heat resistance (col 1, lines 40+).

Therefore, it would have been obvious to one of ordinary skill in the art to add chlorinated polyethylene to the layers taught by Watanabe '359 in order to improve the laminate's flexibility, processability, and heat resistance.

5. Claims 11(1) and 11(2) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP10267360A (herein referred to as Watanabe '360) in view of Holley (US 5,508,343), as applied to claims 1, 2, 6(1), 6(2), 7(1), 7(2), 8(1), 8(2), 9(1), 9(2), and 15 above, and further in view of JP11067945A (herein referred to as Watanabe'945). Watanabe'360 in view of Holley is relied upon as above, but neither reference teaches that the surface layer may comprise a vinyl chloride resin having a chlorination degree of less than 58% and a phosphorus fire-retarding agent. However, Watanabe'945 teaches a molded vinyl chloride based object wherein the surface layers comprise 0-20pbw titanium oxide, 0-8pbw molybdenum compound, (abstract) and 100pbw vinyl chloride based resin having a chlorination degree of 50-58% (paragraph 0025 of translation). Said surface layer provides the core with improved chemical and corrosion resistance (paragraph 0039). Similarly, the surface layer taught in Watanabe'360 provides chemical resistance (paragraph 0018). Therefore, it would have been obvious to replace the surface layer taught in Watanabe'360 with the surface

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layer taught in Watanabe '945 because said surface layers are functionally equivalent in that each provides the laminate with improve chemical and corrosion resistance.

6. Claims 12(1), 12(2), 5, 6(5), 7(5), 8(5), 9(5), 12(5), and 15(5) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP10267360A (herein referred to as Watanabe '360) in view of Holley (US 5,508,343), as applied to claims 1, 2, 6(1), 6(2), 7(1), 7(2), 8(1), 8(2), 9(1), 9(2), and 15 above, and further in view of JP2000076359 (herein referred to as Watanabe '359). Watanabe'360 in view of Holley is relied upon as above, but does not teach that the surface layer should comprise at least one of a foaming agent, a decomposition accelerator, a radical generator, and a crosslinking agent. However, Watanabe '359 teaches that the addition of said components in amounts of 0.005-10pbw improves the fire resistance of vinyl chloride compositions (paragraph 0018). Therefore, it would have been obvious to add any of a foaming agent, a decomposition accelerator, a radical generator, and a crosslinking agent in amounts of 0.005-10pbw to the various layers taught by Watanabe'360 in order to improve the laminate's fire resistance.

7. Claims 4, 6(4), 7(4), 8(4), 9(4), 11(4), 13(4), 14(4), and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Yoshizumi (US 4,431,764). Watanabe'945 teaches a molded material consisting of a flame retardant vinyl chloride resin molded material. The resin material comprises 100pbw vinyl chloride based resin, 4-30pbw titanium oxide, and 1-10pbw of a molybdenum compound (abstract). The molded material may further comprise a surface layer having 0-20pbw titanium oxide, 0-8pbw molybdenum

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compound, (abstract) and 100pbw vinyl chloride based resin having a chlorination degree of 50-58% (paragraph 0025 of translation). The surface layer has a thickness of 200um or more (paragraph 0045). The molded material is utilized in semiconductor fabrication machines and equipment (paragraph 002).

Watanabe'945 does not teach that the molded object may be coated on one side with an antistatic composition. However, Yoshizumi teaches an antistatic coating composition comprising tin oxide (abstract) which is coated onto nonconductive coatings that need antistatic properties (col 1, lines 11+). The tin oxide is dispersed in a binder resin such as vinyl chloride or a thermosetting resin (col 2, lines 41+). Thus, it would have been obvious to one of ordinary skill in the art to apply the coating taught in Yoshizumi onto the substrate taught in Watanabe'945 in order to provide the substrate with antistatic properties.

With respect to claim 13, Yoshizumi does not teach the claimed chlorination content of the vinyl chloride binder. However, Watanabe'945 teaches that the chlorination degree of a polymer will affect its fire resistance, thermal stability, and chemical resistance (paragraphs 0024-0025). Therefore, it would have been obvious to one of ordinary skill in the art to control the chlorination degree of the vinyl chloride binder in order to control the laminate's chemical resistance, thermal stability, and fire resistance.

8. Claims 3, 6(3), 7(3), 8(3), 9(3), 10(3), 11(3), 13(3), 14(3), 15(3), and 10(4) is rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Yoshizumi (US 4,431,764), as applied to claims

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4, 6(4), 7(4), 8(4), 9(4), 11(4), 13(4), 14(4), and 15 above, and further in view of Coaker et al (US 5,036,121). Watanabe'945 in view of Yoshizumi is relied upon as above, but does not teach that the surface layer may comprise chlorinated polyethylene. However, Coaker discloses that it is known in the art to add chlorinated polyethylene to a PVC composition in order to improve the composition's flexibility, processability, and heat resistance (col 1, lines 40+). Therefore, it would have been obvious to one of ordinary skill in the art to add chlorinated polyethylene to the layers taught by Watanabe '945 in order to improve the laminate's flexibility, processability, and heat resistance.

9. Claims 4, 6(4), 7(4), 8(4), 9(4), 11(4), 13(4), 14(4), and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Yoshizumi (US 4,431,764). Watanabe'945 teaches a molded material consisting of a flame retardant vinyl chloride resin molded material. The resin material comprises 100pbw vinyl chloride based resin, 4-30pbw titanium oxide, and 1-10pbw of a molybdenum compound (abstract). The molded material may further comprise a surface layer having 0-20pbw titanium oxide, 0-8pbw molybdenum compound, (abstract) and 100pbw vinyl chloride based resin having a chlorination degree of 50-58% (paragraph 0025 of translation). The surface layer has a thickness of 200um or more (paragraph 0045). The molded material is utilized in semiconductor fabrication machines and equipment (paragraph 002).

Watanabe'945 does not teach that the molded object may be coated on one side with an antistatic composition. However, Yoshizumi teaches an antistatic coating composition comprising tin oxide (abstract) which is coated onto nonconductive

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coatings that need antistatic properties (col 1, lines 11+). The tin oxide is dispersed in a binder resin such as vinyl chloride or a thermosetting resin (col 2, lines 41+). Thus, it would have been obvious to one of ordinary skill in the art to apply the coating taught in Yoshizumi onto the substrate taught in Watanabe'945 in order to provide the substrate with antistatic properties.

With respect to claim 13, Yoshizumi does not teach the claimed chlorination content of the vinyl chloride binder. However, Watanabe'945 teaches that the chlorination degree of a polymer will affect its fire resistance, thermal stability, and chemical resistance (paragraphs 0024-0025). Therefore, it would have been obvious to one of ordinary skill in the art to control the chlorination degree of the vinyl chloride binder in order to control the laminate's chemical resistance, thermal stability, and fire resistance.

With respect to claims 9-12, the examiner takes the position that the applied art reads on the claimed invention when the laminate comprises 2 surface layers. The surface layer adjacent to the antistatic layer is the intermediate layer and the other surface layer reads on the claimed base layer.

With respect to claim 8(4), the examiner takes the position that the applied art reads on the claimed invention when a surface layer is applied to both sides. In said embodiment, the core layer reads on the claimed intermediate layers.

10. Claims 12(4), 5, 6(5), 7(5), 8(5), 9(5), 11(5), 13(5), 14(5), and 15(5) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Yoshizumi (US 4,431,764), as applied to claims 4, 6(4), 7(4),

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8(4), 9(4), 11(4), 13(4), 14(4) and 15 above, and further in view of JP2000076359 (herein referred to as Watanabe '359). Watanabe'945 in view of Yoshizumi is relied upon as above, but does not teach that the surface layer should comprise at least one of a foaming agent, a decomposition accelerator, a radical generator, and a crosslinking agent. However, Watanabe '359 teaches that the addition of said components in amounts of 0.005-10pbw improves the fire resistance of vinyl chloride compositions (paragraph 0018). Therefore, it would have been obvious to add any of a foaming agent, a decomposition accelerator, a radical generator, and a crosslinking agent in amounts of 0.005-10pbw to the various layers taught by Watanabe'945 in order to improve the laminate's fire resistance.

11. Claims 4, 6(4), 7(4), 8(4), 9(4), 11(4), and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Holley (US 5,508,343). Watanabe'945 teaches a molded material consisting of a flame retardant vinyl chloride resin molded material. The resin material comprises 100pbw vinyl chloride based resin, 4-30pbw titanium oxide, and 1-10pbw of a molybdenum compound (abstract). The molded material may further comprise a surface layer having 0-20pbw titanium oxide, 0-8pbw molybdenum compound, (abstract) and 100pbw vinyl chloride based resin having a chlorination degree of 50-58% (paragraph 0025 of translation). The surface layer has a thickness of 200um or more (paragraph 0045). The molded material is utilized in semiconductor fabrication machines and equipment (paragraph 002).

Watanabe'945 does not teach that the molded object may be coated on one side with an antistatic composition. However, Holley teaches an antistatic composition comprising a water-soluble polymer, a titanate, and an ammonium salt (abstract). The composition is coated on substrates (col 2, lines 47+) such as object utilized in the production of semiconductor electronics (col 1, lines 14+) in order to prevent damage that can be caused by static build-up (col 1, lines 27+). NOTE: the molded objects of Watanabe can be utilized in equipment to make semiconductors. Thus, it would have been obvious to one of ordinary skill in the art to coat the molded object taught in Watanabe '945 with the anti-static composition taught in Holley in order to prevent damage to semiconductor electronics that could come in contact with said object.

With respect to claims 9-12, the examiner takes the position that the applied art reads on the claimed invention when the laminate comprises 2 surface layers. The surface layer adjacent to the antistatic layer is the intermediate layer and the other surface layer reads on the claimed base layer.

With respect to claim 8(4), the examiner takes the position that the applied art reads on the claimed invention when a surface layer is applied to both sides. In said embodiment, the core layer reads on the claimed intermediate layers.

12. Claims 3, 6(3), 7(3), 8(3), 9(3), 10(3), 11(3), 15(3), and 10(4) is rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Holley (US 5,508,343), as applied to claims 4, 6(4), 7(4), 8(4), 9(4), 11(4), and 15 above, and further in view of Coaker et al (US 5,036,121).

Watanabe'945 in view of is relied upon as above, but does not teach that the surface

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layer may comprise chlorinated polyethylene. However, Coaker discloses that it is known in the art to add chlorinated polyethylene to a PVC composition in order to improve the composition's flexibility, processability, and heat resistance (col 1, lines 40+). Therefore, it would have been obvious to one of ordinary skill in the art to add chlorinated polyethylene to the layers taught by Watanabe '945 in order to improve the laminate's flexibility, processability, and heat resistance.

13. Claims 12(4), 5, 6(5), 7(5), 8(5), 9(5), 11(5), and 15(5) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Holley (US 5,508,343), as applied to claims 4, 6(4), 7(4), 8(4), 9(4), 11(4), and 15 above, and further in view of JP2000076359 (herein referred to as Watanabe '359). Watanabe'945 in view of Holley is relied upon as above, but does not teach that the surface layer should comprise at least one of a foaming agent, a decomposition accelerator, a radical generator, and a crosslinking agent. However, Watanabe '359 teaches that the addition of said components in amounts of 0.005-10pbw improves the fire resistance of vinyl chloride compositions (paragraph 0018). Therefore, it would have been obvious to add any of a foaming agent, a decomposition accelerator, a radical generator, and a crosslinking agent in amounts of 0.005-10pbw to the various layers taught by Watanabe'945 in order to improve the laminate's fire resistance.

14. Claims 3, 6(3), 7(3), 8(3), 9(3), 10(3), and 15(3) are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Holley (US 5,508,343). Watanabe'945 teaches a molded material consisting

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of a flame retardant vinyl chloride resin molded material. The resin material comprises 100pbw vinyl chloride based resin, 4-30pbw titanium oxide, and 1-10pbw of a phosphorous compound (abstract). The molded material may further comprise a surface layer having 0-20pbw titanium oxide, 0-8pbw molybdenum compound, (abstract) and 100pbw vinyl chloride based resin having a chlorination degree of 50-58% (paragraph 0025 of translation). The surface layer has a thickness of 200um or more (paragraph 0045). The molded material is utilized in semiconductor fabrication machines and equipment (paragraph 002).

Watanabe'945 does not teach that the molded object may be coated on one side with an antistatic composition. However, Holley teaches an antistatic composition comprising a water-soluble polymer, a titanate, and an ammonium salt (abstract). The composition is coated on substrates (col 2, lines 47+) such as object utilized in the production of semiconductor electronics (col 1, lines 14+) in order to prevent damage that can be caused by static build-up (col 1, lines 27+). NOTE: the molded objects of Watanabe can be utilized in equipment to make semiconductors. Thus, it would have been obvious to one of ordinary skill in the art to coat the molded object taught in Watanabe '945 with the anti-static composition taught in Holley in order to prevent damage to semiconductor electronics that could come in contact with said object.

With respect to claims 9-12, the examiner takes the position that the applied art reads on the claimed invention when the laminate comprises 2 surface layers. The surface layer adjacent to the antistatic layer is the intermediate layer and the other surface layer reads on the claimed base layer.

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With respect to claim 8(3), the examiner takes the position that the applied art reads on the claimed invention when a surface layer is applied to both sides. In said embodiment, the core layer reads on the claimed intermediate layers.

15. Claim 12(3), 5, 6(5), 7(5), 8(5), 9(5), 10(5), and 15(5) is rejected under 35 U.S.C. 103(a) as being unpatentable over JP11067945A (herein referred to as Watanabe'945) in view of Holley (US 5,508,343), as applied to claims 3, 6(3), 7(3), 8(3), 9(3), 10(3), and 15(3) above, and further in view of JP2000076359 (herein referred to as Watanabe '359). Watanabe'945 in view of Holley is relied upon as above, but does not teach that the surface layer should comprise at least one of a foaming agent, a decomposition accelerator, a radical generator, and a crosslinking agent. However, Watanabe '359 teaches that the addition of said components in amounts of 0.005-10pbw improves the fire resistance of vinyl chloride compositions (paragraph 0018). Therefore, it would have been obvious to add any of a foaming agent, a decomposition accelerator, a radical generator, and a crosslinking agent in amounts of 0.005-10pbw to the various layers taught by Watanabe'945 in order to improve the laminate's fire resistance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 703-305-0025. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

K- RK-

krk
May 14, 2003

Paul Thibodeau
Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700